Amendment Date: June 30, 2005

Reply to Office Action: May 5, 2005

Page 2

The listing of claims will replace all prior versions, and listings, of claims in the

application:

Listing of Claims:

1. (Withdrawn) An electrolyte sheet, said electrolyte sheet comprising a substantially

non-porous body of a varied thickness, said electrolyte sheet having a textured surface

with multiple indentations therein, wherein the thickest part of said electrolyte sheet is

at least 0.5 micrometers greater than the thinnest part of said electrolyte sheet.

2. (Withdrawn) The electrolyte sheet of claim 1, wherein the electrolyte sheet is a

ceramic sheet formed of a polycrystalline ceramic selected from a group consisting of

partially stabilized zirconia or stabilized zirconia, and being doped with a dopant

selected from the group consisting of the oxides of Y, Ce, Ca, Mg, Sc, Nd, Sm, Eu, Gd,

Tb, Dy, Ho, Er, Tm, Yb, Lu, In, Ti, Sn, Nb, Ta, Mo, W and mixtures thereof.

3. (Withdrawn) The electrolyte sheet of claim 1, wherein the thickest part of said

sheet is at least 2 micrometers greater than the thinnest part of said sheet

4. (Withdrawn) The electrolyte sheet of claim 1, wherein the thickest part of said

sheet is at least 2 to 10 micrometers greater than the thinnest part of said sheet.

5. (Withdrawn) The electrolyte sheet of claim 1, wherein said electrolyte sheet has an

average thickness greater than 5 micrometers and less than 100 micrometers.

(Withdrawn) The electrolyte sheet of claim 1, wherein said average thickness is

below 45 micrometers.

7. (Withdrawn) The electrolyte sheet of claim 1, wherein said average thickness is

below 20 micrometers.

Amendment Date: June 30, 2005

Reply to Office Action: May 5, 2005

Page 3

8. (Withdrawn) The electrolyte sheet of claim 1, wherein said average thickness is

between 5 and 18 micrometers.

9. (Withdrawn) The electrolyte sheet of claim 1, wherein said textured surface has

periodically arranged indentations.

10. (Original) A solid oxide electrode/electrolyte assembly comprising:

a thin electrolyte sheet of varied thickness of an average electrolyte sheet

thickness between 3 micrometers and 30 micrometers;

at least one cathode disposed on a first surface of said electrolyte sheet;

at least one anode disposed opposite the cathode on a second surface of said

electrolyte sheet;

wherein said electrolyte sheet has a thickness variation of at least 2 micrometers.

11. (Original) An electrode/electrolyte assembly according to claim 10, wherein the

electrolyte sheet is a ceramic sheet formed of a polycrystalline ceramic selected from a

group consisting of partially stabilized zirconia or stabilized zirconia, and being doped

with a dopant selected from the group consisting of the oxides of Y, Ce, Ca, Mg, Sc,

Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, In, Ti, Sn, Nb, Ta, Mo, W and mixtures

thereof.

12. (Original) An electrode/electrolyte assembly according to claim 11, wherein said

average electrolyte sheet thickness is between 4 and 20 micrometers.

13. (Original) An electrode/electrolyte assembly according to claim 12, wherein said

average electrolyte sheet thickness is between 4 and 15 micrometers.

14. (Original) An electrode/electrolyte assembly according to claim 13, wherein said

average electrolyte sheet thickness is between 8 and 15 micrometers.

Amendment Date: June 30, 2005

Reply to Office Action: May 5, 2005

Page 4

15. (Previously Presented) An electrode/electrolyte assembly according to claim 12,

wherein said thickness variation 2 to 10 micrometers.

16. (Original) An electrode/electrolyte assembly according to claim 12, wherein said

electrolyte sheet is flexible.

17. (Withdrawn) A method of making an electrolyte sheet, said method comprising

the steps of:

(a) providing a textured green pre-ceramic sheet with at least 0.5 micrometer

variations in its thickness;

(b) sintering the textured, green pre-ceramic sheet to provide an electrolyte

sheet with substantially non-porous body, the non porous body having a textured

surface with multiple indentations therein, wherein the thickest part of the electrolyte

sheet is at least 0.5 micrometers greater than the thinnest part of the electrolyte sheet.

18. (Withdrawn) The method according to claim 17, wherein the green sheet and the

resulting electrolyte sheet have thickness variation of at least 2 micrometers.

19. (Withdrawn) The method of claim 17, wherein said step of providing said

textured green pre-ceramic sheet includes placing ceramic slip on a textured surface.

20. (Withdrawn) The method of claim 17, wherein said step of providing said

textured green pre-ceramic sheet includes texturing said green pre-ceramic sheet with at

least one textured roller.

21. (Withdrawn) The method of claim 17 wherein said green pre-ceramic sheet is

squeezed between two rollers.

22. (Withdrawn) The method of claim 17 further including a step of removing green-

pre-ceramic material from higher areas of the green pre-ceramic sheet.

Amendment Date: June 30, 2005 Reply to Office Action: May 5, 2005

Page 5

23. (Currently Amended) A solid oxide electrode/electrolyte assembly comprising:

a thin electrolyte sheet of varied thickness of an average electrolyte sheet thickness between 3 micrometers and 30 micrometers and thickness variation of at least 0.5 micrometers and ohmic resistance of no more than 0.5 ohm/cm²;

at least one cathode disposed on a first surface of said electrolyte sheet; and at least one anode disposed opposite the cathode on a second surface of said electrolyte sheet.

- 24. **(Previously Presented)** The solid oxide electrode/electrolyte assembly according to claim 23 wherein said electrolyte sheet has a textured surface with multiple indentations.
- 25. (Previously Presented) The solid oxide electrode/electrolyte assembly according to claim 10 wherein said electrolyte sheet has a textured surface with multiple indentations.